

1 MOLTEN METAL REACTOR UTILIZING MOLTEN METAL FLOW
2 FOR FEED MATERIAL AND REACTION PRODUCT ENTRAPMENT
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4 ABSTRACT OF THE DISCLOSURE

5 A molten metal reactor (10) quickly entrains a feed material in the molten reactant metal
6 (16) and provides the necessary contact between the molten reactant metal and the feed material
7 to effect the desired chemical reduction of the feed material. The reactor (10) includes a unique
8 feed structure (24) adapted to quickly entrain the feed material into the molten reactant metal
9 (16) and then transfer the molten reactant metal, feed material, and initial reaction products into a
10 treatment chamber (12). A majority of the desired reactions occur in the treatment chamber (12).
11 Reaction products and unspent reactant metal are directed from the treatment chamber (12) to an
12 output chamber (14) where reaction products are removed from the reactor. Unspent reactant
13 metal (16) is then transferred to a heating chamber (15) where it is reheated for recycling through
14 the system.
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